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Fuel Economy Program Fact Sheet

Basic Fuel Economy Program Components

- Fuel Economy Labels and Guide Publication
- Gas Guzzler Tax Identification
- Corporate Average Fuel Economy Calculation

A. Vehicles Tested

Manufacturers are only required to test one vehicle in each base level (combination of inertia weight classes (250 to 500 pound increments), transmission class (type of transmission such as Manual 4-speed), and basic engine (engine size, number of cylinders, and type of fuel system; such as: 5.0- liter, 8 cylinder, multi-point fuel injected engine).

- **Manufacturers may test add'tional vehicles, 'f they choose.**

- Manufacturers test all the vehicles at their laboratories. EPA confirms about 30 percent of the vehicles at the EPA lab.

B. Types of Tests Run

- Vehicles are driven over identical driving patterns by professional drivers in controlled laboratory on a dynamometer. Road forces and aerodynamic forces are fully accounted for in the test

The city test is 7.5 miles long and is a stop and go trip with an average speed of about 20 miles per hour (mph). ne trip lasts 23 minutes and has 18 stops. About 18 percent of the time is spent idling (as in waiting for **a-affic** lights). A short freeway driving segment is included in the test. The engine is initially started after being parked overnight.

The highway is a 10 mile trip with an average speed of 48 mph. 'Me vehicle is started "hot" and there is very little idling and no stops.

C. Calculation Technique

Fuel economy values are calculated from the emissions generated during the tests using a carbon balance equation (we know how much carbon is in a gallon of gasoline, so by measuring the carbon compounds expelled in the exhaust we can calculate the fuel economy). The equation for gasoline is:

MPG = (2421) / (.9666 X HC) + (0.429 X CO) + (0.273 X C02)

- Labels values are calculated by averaging weighted by projected sales for multiple test vehicles

'Fe equation **for** calculating the averages is:

Fe_ave = (total sales / ((sales1/fe1)+ (sales2/FE2) + ...+ (salesn/FEn))

Combined fuel economy is a weighted average of the city (55%) and highway (45%). The equation is:

FEcomb = 1 */ (.55* / city FE) + (.45 / hwy FE)

D. Guide and Label Values

The Guide values are based on model type averages (combination of carline (vehicle names, such as: Escort), tmmmission class, and basic engine)

The Guide values are adjusted to account for the in-use short fan of EPA numbers (EPA conducted a study and determined that real drivers in actual conditions get 90% of EPA's city value and 78% of EPA's highway value). ne city value is multiplied by .90 and the highway value by .78.

- Guide entries are rounded to a whole mile per gallon (MPG)

- Annual fuel costs are based on the combined fuel economy (adjusted for in-use shortfall), 15,000 miles traveled per year and the estimated fuel cost from the following table (for 1990 model year vehicles):

Regular Unleaded Gasoline	**$1.05 per gallon**
Premium Unleaded Gasoline	$1.20 **per gallon**
Diesel Fuel	$0.90 **per gallon**

- The Gas **Mileage** Guide **is published and distributed by DOE based on EPA's** data.

- Manufacturers are required to label all cars and light trucks (less than 6500 pounds of gross vehicle weight rating (GVWR)) **with** the fuel economy values on a window sticker.

- New car dealers are required to have copies of the Guide available.

Gas Guzzler Tax

A. Calculation Technique

- **Gas Guzzler Tax applies only to cars (not trucks)**

- It is based on the label calculation

-The combined fuel economy is used for determining tax liability. economy is not adjusted for in-use shortfall.

-The FE is adjusted for differences in test procedures made since the base year.

B. Tax Schedule

-Tax is collected by the IRS which can grant alternative schedules.

Tax Table

at least 22.5	No Tax
at **least** 21.5, but less than 22.5	*$500.*
at least 20.5, but less **than** 21.5	$650.
at least 19.5, but less than 20.5	$850.
at least 18.5, but less than 19.5	*$1050.*
at least 17.5, but less than 18.5	$1300.
at least 16.5, but less than 17.5	*$1500.*
at least 15.5 , but less than 16.5	$1850.
at least 14.5, but less **than** 15.5	$2250.
at least 13.5, but less than 14.5	$2700.
at least 12.5, but less than 13.5	$3200.
less than 12.5	$3850.

CAFE

A. Vehicles Tested

All tests -run for labels or other purposes are included in the calculation

At the minimum the manufacturer must run sufficient vehicles to achieve 90 percent actual sales coverage by configuration.

Manufacturers test all the vehicles at their laboratories. EPA confirms about 30 percent of the vehicles at the EPA lab.

B . Calculation Technique

- Calculation is the same as for labels except that actual production figures are used in place of projected sales.

- The CAFE is the sales-weighted average of all model type fuel economies

The final average is adjusted to account for changes to the test procedures since the base year.

C. Calculation Categories

- Separate calculations are made for passenger cars and the manufacturers choice of separate 2WD and 4WD truck categories, or combined trucks.

- Separate calculations are made for domestic (75 percent domestic content) and imported vehicles.

D. Standards

CAFE standards may be modified by NHTSA, current standards are:

Passenger Cars	27.5 Mpg
Combined Trucks	20.0 Mpg
2WD Trucks	20.5 Mpg
4WD Trucks	19.0 Mpg

E. Fines

-The fines are set at $5 per tenth of mpg per vehicle produced. The fines are collected by NHTSA which can grant exemptions and alternative standards.

- Credits can be carried forward or back in time for up to three years to offset fines calculated in other years.